## AMENDMENTS TO THE CLAIMS

1. (Cancelled)
2. (Cancelled)
3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)
7. (Cancelled)
8. (Cancelled)
9. (Cancelled)
10. (Cancelled)
11. (Cancelled)
12. (Cancelled)
13. (Cancelled)
14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Previously presented) An implantable sensor for sensing the presence of an analyte in a vessel, comprising:

at least two substantially tubular support structures directly connected to one another, for anchoring the sensor in the vessel, each support structure having a side wall with a luminal side facing toward the center of the vessel and an abluminal side facing toward the wall of the vessel;

a sensor housing carried by the support structures, the housing having a streamlined exterior configuration to minimize blood flow turbulence and located between two support structures;

a power supply and electrical circuitry in the housing; and

a sensing surface exposed to the exterior of the housing;

wherein the sensing surface is positioned on the radially inwardly most portion of the luminal side of the housing.

20. (Cancelled)

21. (Cancelled)

22. (Original) An implantable sensor as in Claim 19, wherein the sensor housing is positioned on the luminal side of the support structures.

23. (Previously presented) An implantable sensor as in Claim 19, further comprising tubular sleeves surrounding the tubular support structures.

24. (Original) An implantable sensor as in Claim 23, wherein the tubular sleeves are on the radially outwardly facing surface of the tubular support structures.

25. (Previously presented) An implantable sensor as in Claim 23, wherein the tubular sleeves are on the radially inwardly facing surface of the tubular support structures.

26. (Original) An implantable sensor as in Claim 23, wherein the tubular sleeves comprise ePTFE.

27. (Original) An implantable sensor as in Claim 19, further comprising an analyte permeable membrane and an enzyme gel layer.

28. (Original) An implantable sensor as in Claim 27, wherein the enzyme gel layer comprises glucose oxidase.

29. (Original) An implantable sensor as in Claim 19, wherein the sensor comprises an amperometric sensor.

30. (Original) An implantable sensor as in Claim 19, wherein the sensor comprises an electrode selected from the group consisting of oxygen electrodes, hydrogen peroxide electrodes, and electrodes with mediated electron transfer.

31. (Withdrawn) A method of reducing the cross sectional profile of an intraluminal electronic device, comprising the steps of packaging the device in at least two separate components, and securing the components to at least a first anchor and a second anchor for retaining the components axially spaced apart within the lumen.

32. (Withdrawn) A method of reducing the cross sectional profile of an intraluminal electronic device as in Claim 31, comprising a first component and a second component, and a first anchor, a second anchor, and a third anchor.

33. (Withdrawn) A method of reducing the cross sectional profile of an intraluminal electronic device, comprising the steps of positioning the device at a site in a lumen, and activating a first anchor on a first side of the device and a second anchor on a second side of the device to retain the device in the lumen.

34. (Withdrawn) A method of reducing the cross sectional profile of an intraluminal electronic device as in Claim 33, wherein the activating step comprises permitting at least one of the first and second anchors to self expand.

35. (Withdrawn) A method of reducing the cross sectional profile of an intraluminal electronic device as in Claim 33, wherein the activating step comprises forcibly expanding at least one of the first and second anchors.

36. (Withdrawn) A method of reducing the cross sectional profile of an intraluminal electronic device as in Claim 33, wherein the device comprises at least two electrical components and at least two anchors.

37. (Withdrawn) A method of reducing the cross sectional profile of an intraluminal electronic device as in Claim 36, wherein the device comprises at least two electrical components and at least three anchors.

38. (Withdrawn) A method of reducing the cross sectional profile of an intraluminal electronic device as in Claim 36, wherein the device comprises at least three electrical components and at least three anchors.

39. (Cancelled)

40. (Cancelled)

41. (Cancelled)

42. (Cancelled)

43. (Cancelled)

44. (Cancelled)

45. (Previously presented) An implantable sensor as in Claim 19, wherein the sensing surface is spaced radially inwardly from the luminal side by a distance of at least about 0.2 mm, such that the velocity of blood in the vessel inhibits obstruction of the sensing surface.

46. (Previously presented) An implantable sensor as in Claim 45, wherein the distance is at least about 0.5mm.

47. (Previously presented) An implantable sensor as in Claim 45, wherein the distance is within the range of from about 0.3 mm to about 2.5 mm.

48. (Previously presented) An implantable sensor as in Claim 45, wherein the distance is sufficient to increase the blood flow velocity at the sensing surface to from about 125% to about 200% of the blood flow velocity immediately proximal to the support structures.

49. (Previously presented) An implantable sensor as in Claim 45, further comprising a transmitter mounted to at least one of the support structures, for transmitting information from the sensor to an external receiver.

50. (Previously presented) An implantable sensor as in Claim 49, wherein an inductive link supplies power to the transmitter.

51. (Previously presented) An implantable sensor as in Claim 45, further comprising a thin film rechargeable battery carried by the support structures.

52. (Previously presented) An implantable sensor as in Claim 45, wherein the support structures comprise enlargeable frames.

53. (Previously presented) An implantable sensor as in Claim 52, wherein the support structures comprise expandable tubular bodies.

54. (Previously presented) An implantable sensor as in Claim 45, wherein the support structures comprise balloon expandable stents.

55. (Previously presented) An implantable sensor as in Claim 45, wherein the support structures comprise self expandable stents.

56. (Currently Amended) An implantable sensor for sensing the presence of an analyte in a vessel, comprising:

at least two substantially tubular support structures for anchoring the sensor in the vessel, each support structure having a side wall with a luminal side facing toward the center of the vessel and an abluminal side facing toward the wall of the vessel;

a sensor housing carried by the support structures, the housing having a streamlined exterior configuration to minimize blood flow turbulence and located between the two support structures and positioned on the luminal side of the support structures;

a power supply and electrical circuitry in the housing; and

a sensing surface exposed to the exterior of the housing;

wherein the sensing surface is positioned ~~on the~~ radially inwardly ~~most portion of the luminal side of the housing~~from the tubular support structures.

57. (Previously presented) An implantable sensor as in Claim 56, wherein the support structures are directly connected to one another.

58. (Previously presented) An implantable sensor as in Claim 56, wherein the support structures are not directly connected to one another.

59. (Previously presented) An implantable sensor as in Claim 56, further comprising a tubular sleeves surrounding the tubular support structures.

60. (Previously presented) An implantable sensor as in Claim 59, wherein the tubular sleeves are on the radially outwardly facing surface of the tubular support structures.

61. (Previously presented) An implantable sensor as in Claim 59, wherein the tubular sleeve is on the radially inwardly facing surface of the tubular support structures.

62. (Previously presented) An implantable sensor as in Claim 59, wherein the tubular sleeves comprise ePTFE.

63. (Previously presented) An implantable sensor as in Claim 56, further comprising an analyte permeable membrane and an enzyme gel layer.

64. (Previously presented) An implantable sensor as in Claim 63, wherein the enzyme gel layer comprises glucose oxidase.

65. (Previously presented) An implantable sensor as in Claim 56, wherein the sensor comprises an amperometric sensor.

66. (Previously presented) An implantable sensor as in Claim 56, wherein the sensor comprises an electrode selected from the group consisting of oxygen electrodes, hydrogen peroxide electrodes, and electrodes with mediated electron transfer.

67. (Currently Amended) An implantable sensor for sensing the presence of an analyte in a vessel, comprising:

at least two substantially tubular support structures for anchoring the sensor in the vessel, each support structure having a side wall with a luminal side facing toward the center of the vessel and an abluminal side facing toward the wall of the vessel;

tubular sleeves surrounding the tubular support structures;

a sensor housing carried by the support structures, the housing having a streamlined exterior configuration to minimize blood flow turbulence and located between two support structures;

a power supply and electrical circuitry in the housing; and

a sensing surface exposed to the exterior of the housing;

wherein the sensing surface is positioned ~~on the~~ radially inwardly ~~most portion of the luminal side of the housing~~from the tubular support structures.

68. (Previously presented) An implantable sensor as in Claim 67, wherein the support structures are directly connected to one another.

69. (Previously presented) An implantable sensor as in Claim 67, wherein the support structures are not directly connected to one another.

70. (Previously presented) An implantable sensor as in Claim 67, wherein the sensor housing is positioned on the luminal side of the support structures.

71. (Previously presented) An implantable sensor as in Claim 67, wherein the tubular sleeves are on the radially outwardly facing surface of the tubular support structures.

72. (Previously presented) An implantable sensor as in Claim 67, wherein the tubular sleeves are on the radially inwardly facing surface of the tubular support structures.

73. (Previously presented) An implantable sensor as in Claim 67, wherein the tubular sleeves comprise ePTFE.

74. (Previously presented) An implantable sensor as in Claim 67, further comprising an analyte permeable membrane and an enzyme gel layer.

75. (Previously presented) An implantable sensor as in Claim 74, wherein the enzyme gel layer comprises glucose oxidase.

76. (Previously presented) An implantable sensor as in Claim 67, wherein the sensor comprises an amperometric sensor.

77. (Previously presented) An implantable sensor as in Claim 67, wherein the sensor comprises an electrode selected from the group consisting of oxygen electrodes, hydrogen peroxide electrodes, and electrodes with mediated electron transfer.

78. (Previously presented) An implantable sensor as in Claim 67, wherein the sensing surface is spaced radially inwardly from the luminal side by a distance of at least about 0.2 mm, such that the velocity of blood in the vessel inhibits obstruction of the sensing surface.

79. (Previously presented) An implantable sensor as in Claim 67, wherein the distance is at least about 0.5mm.

80. (Previously presented) An implantable sensor as in Claim 67, wherein the distance is within the range of from about 0.3 mm to about 2.5 mm.

81. (Previously presented) An implantable sensor as in Claim 67, wherein the distance is sufficient to increase the blood flow velocity at the sensing surface to from about 125% to about 200% of the blood flow velocity immediately proximal to the support structures.

82. (Previously presented) An implantable sensor as in Claim 67, further comprising a transmitter mounted to at least one of the support structures, for transmitting information from the sensor to an external receiver.

83. (Previously presented) An implantable sensor as in Claim 82, wherein an inductive link supplies power to the transmitter.

84. (Previously presented) An implantable sensor as in Claim 67, further comprising a thin film rechargeable battery carried by the support structures.

85. (Previously presented) An implantable sensor as in Claim 67, wherein the support structures comprise enlargeable frames.

86. (Previously presented) An implantable sensor as in Claim 85, wherein the support structures comprise expandable tubular bodies.

87. (Previously presented) An implantable sensor as in Claim 67, wherein the support structures comprise balloon expandable stents.

88. (Previously presented) An implantable sensor as in Claim 67, wherein the support structures comprise self expandable stents.